

We claim:

1. A process for the preparation of cyclic carbonates which comprises reacting an olefin or an epoxide thereof with carbon dioxide or a mixture of oxygen-containing compound and carbon dioxide, in the presence of zeolite-based catalyst and a Lewis base co-catalyst, separating the catalyst and recovering the corresponding cyclic carbonate formed.
2. A process as claimed in claim 1 wherein the reaction is carried out at a minimum pressure of 30 psig and temperature in the range of 40 to 120°C for 0.5 to 4 hrs.
3. A process as claimed in claim 1 wherein the zeolite based catalyst is selected from the group consisting of a zeolite, a metallosilicate and a solid organometallic complex comprising of N and O-donor atoms encapsulated in a zeolite or zeolite-like material selected from an aluminosilicate, aluminophosphate and metallosilicate.
4. A process as claimed in claim 3 wherein the zeolite based catalyst is selected from an aluminosilicate of the molecular formula $M^{n+}_{x/n} [(AlO_2)_x(SiO_2)_y].z H_2O$ where n is the valance of the charge corresponding cation m like sodium, potassium, cesium etc.; x assume value between 0 to 0.5, the ratio of x/y being less or equal to 1; or a zeolite containing an encapsulated organometallic complex having formula $(C_{32} H_{16} N_8 M)$ wherein M= Al, Cu, Co or Ni.
5. A process as claimed in claim 3 wherein the metallosilicate has a composition $(TiO_2)_xSiO_2$ where x = 0 to 0.04.
6. A process as claimed in claim 3 wherein the organometallic complex consists of transition metal ions such as Al, Cu, Co and Ni and coordinated ligands containing N- and/or O-donor atoms such as phthalocyanines, porphyrins, Schiff bases, peraza macrocycles, pyridine or derivatives thereof.
7. A process as claimed in claim 1 wherein the olefin is of the formula $C_{(n)}H_{2(n)}$ wherein n=2 to 10 or its corresponding epoxide.
8. A process as claimed in claim 1 wherein the olefin or epoxide thereof is dissolved in a solvent selected from a polar and non-polar solvent.
9. A process as claimed in claim 8 wherein the solvent is selected from the group consisting of 1,2-dichloromethane, toluene, acetonitrile, methanol and water.
10. A process as claimed in claim 1 wherein the Lewis base co-catalyst is selected from the group consisting of pyridine, a pyridine derivative, alkyl phosphene, aryl phosphene, alkyl ammonium salts and phosphonium salts.

11. A process as claimed in claim 1 wherein the In still another embodiment the oxygen-containing compound is selected from the group consisting of oxygen, air, nitrogen oxides, hydrogen peroxide and alkyl hydroperoxide.
12. A process as claimed in claim 1 wherein the ratio of olefin/its epoxide to the catalyst is in
5 the range of 2500:1 to 5:1
13. A process as claimed in claim 1 wherein the reaction is phosgene free.
14. A process as claimed in claim 1 wherein the zeolite based catalyst is separated and recycled.
15. A process as claimed in claim 14, wherein the separation of the catalyst is carried out by
10 filtration.
16. A process as claimed in claim 1 wherein the conversion of the hydrocarbon or epoxide is greater than or equal to 85% and the selectivity for the carbonate is greater than or equal to 85%.